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Vernet, Corine  
Fernandes, Elma  
Shimkets, Richard  
Spaderna, Steven  
Majumder, Kumud

<120> Novel Polypeptides and Nucleic Acids Encoding Same

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<140> 09/804,014

<141> 2001-03-12

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<160> 75

<170> PatentIn Ver. 2.1

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<213> Homo sapiens

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      20             25             30

Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
      35             40             45

Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
      50             55             60

Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
      65             70             75             80

Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
      85             90             95

Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
      100            105            110

Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly
      115            120            125

Ser His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys
      130            135            140

Ser Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val

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Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser			
	195	200	205
Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp			
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Lys Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly			
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Thr Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys			
	245	250	255
Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg			
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Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met Gln Pro Leu Gly Arg			
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His Glu Leu Gly Ser Gly Cys Pro Gln Pro			
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<212> PRT

<213> Homo sapiens

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          20             25             30

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Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
      35             40             45

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Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
      50             55             60

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Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
      65             70             75             80

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Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
          85             90             95

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Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
      100             105             110

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Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly
      115             120             125

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Ser His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys
      130             135             140

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Ser Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val
      145             150             155             160

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Gly Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser
          165             170             175

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Thr Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr
          180             185             190

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Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser  
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 Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp  
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 Lys Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly  
 225 230 235 240  
 Thr Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys  
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 Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg  
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 Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met  
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           35                          40                          45  
 Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu  
           50                          55                          60  
 Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile  
           65                          70                          75                          80  
 Gly Thr Val Lys Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly  
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 Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser  
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 Gly Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser  
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 Ser Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp  
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 Pro Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg  
           260                          265                          270  
 Ser Gln Ala Gly Arg Pro Glu Gly Arg Ala Met Gln Pro Leu Gly Arg  
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<210> 8

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<213> Homo sapiens

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  20             25             30

Arg Arg Gly Arg Ala Gly Arg Ala Ser Arg Gln Arg Ala Arg Gly Arg
  35             40             45

Pro Val Ala Leu Arg Pro Ala Gly Val Thr Val Pro Pro Pro Ser Arg
  50             55             60

Pro Ser Arg Pro Ala Gly Leu Phe Tyr Ala Arg Thr Pro Asp Thr Gly
  65             70             75             80

His Arg Ala Gly Ala Ala Val Gly Ala Thr Arg Arg Phe Ala Gly Arg
  85             90             95

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 Ala Arg Arg Gly Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr Phe Phe  
 145 150 155 160  
 Asp Arg His Arg Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr Gln Ser  
 165 170 175  
 Gly Gly Arg Leu Arg Arg Pro Ala His Val Pro Leu Asp Val Phe Leu  
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 355 360 365  
 Gly Val Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg  
 370 375 380  
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 385 390 395 400



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 Val Tyr Phe Ala Glu Val Asp Arg Val Asp Ser His Phe Thr Ser Ile  
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 485 490 495  
 Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu  
 500 505 510  
 Ala Gly Met Phe Ser His Val Asp Met Gln Pro Cys Gly Pro Leu Glu  
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 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 10  
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           20                  25                  30  
 Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg Asn Val Ala Gln  
           35                  40                  45  
 Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu Val Arg Lys Lys  
       50                  55                  60  
 Gln Glu Gly Ser Lys Gln Leu Leu Gln Val Asn Lys Leu Glu Lys Glu  
       65                  70                  75                  80  
 Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln Val Ala Glu Lys  
           85                  90                  95  
 Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu Asn Leu Val Gln  
          100                 105                 110  
 Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg Lys Leu Ser Leu  
       115                 120                 125  
 Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr Tyr Gly Lys Ser  
       130                 135                 140  
 Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln Glu Gln Ile Ser  
   145                 150                 155                 160  
 His Leu Gln Phe Val Ile His Ser Gln His Gln Asn Leu Arg Ser Val  
          165                 170                 175  
 Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys Glu Gln Asp Lys  
          180                 185                 190  
 Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu Glu Ala Gln Asn  
       195                 200                 205  
 Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu Thr Pro Arg Thr  
       210                 215                 220  
 Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys Thr Glu Gly Val  
   225                 230                 235                 240  
 Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys  
           245                 250

<210> 11  
 <211> 1482

<212> DNA  
 <213> Homo sapiens

<400> 11

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tattttttta tccttccatc tcctggatga cactgcgcag gttctgatgt tgggagtgaa 540
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cactggggaa gccgctggaa aggcacctgg acacccacac ac 1482

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<210> 12  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 12

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Met Thr Thr Val Ala Val Thr Thr Glu Ile Pro Pro Arg Asp Lys Met
  1              5              10             15

Glu Asp Asn Ser Ala Leu Tyr Glu Ser Thr Ser Ala His Ile Ile Glu
      20              25             30

Glu Thr Glu Tyr Val Lys Lys Ile Arg Thr Thr Leu Gln Lys Ile Arg
  35              40             45

Thr Gln Met Phe Lys Asp Glu Ile Arg His Asp Ser Thr Asn His Lys
  50              55             60

Leu Asp Ala Lys His Cys Gly Asn Leu Gln Gln Gly Ser Asp Ser Glu
  65              70             75             80

Met Asp Pro Ser Cys Cys Ser Leu Asp Leu Leu Met Lys Lys Ile Lys
      85              90             95

Gly Lys Asp Leu Gln Leu Leu Glu Met Asn Lys Glu Asn Glu Val Leu
 100              105             110

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Lys Ile Lys Leu Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg  
 115 120 125  
 Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu  
 130 135 140  
 Val Arg Lys Lys Gln Glu Asp Ser Lys Gln Leu Leu Gln Val Asn Lys  
 145 150 155 160  
 Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln  
 165 170 175  
 Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu  
 180 185 190  
 Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg  
 195 200 205  
 Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr  
 210 215 220  
 Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln  
 225 230 235 240  
 Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln His Gln Asn  
 245 250 255  
 Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys  
 260 265 270  
 Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu  
 275 280 285  
 Glu Ala Gln Asn Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu  
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 Thr Pro Arg Thr Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys  
 305 310 315 320  
 Thr Glu Gly Val Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys  
 325 330 335

<210> 13  
 <211> 1442  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
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 tattaatttt acttcgtctt ggccagaatt cacaatgaca acagtgcagc tgaccacaga 180  
 aattccccca agggataaga tggaagataa ttctgccttg tatgagtcta cgtccgctca 240  
 cattattgaa gaaaccgagt atgtgaaaaa gattcgaact actctgcaaa agatcaggac 300  
 ccagatgttt aaagatgaaa taagacatga cagtacaaat cacaaactag atgcaaagca 360  
 ctgtggaaac cttcaacagg gctctgattc tgaaatggat ctttcttggt gcagtttggg 420

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tttgcttatg aaaaagataa aaggaaaaga cctacagctc ttagaaatga acaaagagaa 480
tgaagtattg aaaatcaagc tgcaagcctc cagagaagca ggagcagcag ctctgagaaa 540
cgtggcccag agattatttg aaaactacca aacgcaatct gaagaagtga gaaagaagca 600
ggaggacagt aaacaattac tccagggttaa caagcttgaa aaagaacaga aattgaaaca 660
acatgttgaa aatctgaatc aagttgctga aaaacttgaa gaaaaacaca gtcaaattac 720
agaattggag aaccttgtag agagaatgga aaaggaaaag agaacactac tagaaagaaa 780
actgtctttg gaaaacaagc tactgcaact caaatccagt gctacatatg gaaaaagttg 840
ccaggatctt cagagggaga tttccattct ccaggagcag atctctcatc tgcagtttgt 900
gattcactcc caacatcaga acctgcgcag tgatcatccag gagatggaag gattaataaa 960
taatttaaaa gaacaagaca aaagaattga aaatctcaga gaaaagggtta acatacttga 1020
agcccagaat aaagaactaa aaaccaggt agcactttca tctgaaactc ctaggacaaa 1080
ggtatctaag gctgtctcta caagtgaatt gaagaccgaa ggtgtttccc cttatttaat 1140
gttgattagg ttacggaaat gaactggctg gatgaagatc tgatttagaa agactgcgtg 1200
agtcttattt attctctgaa acacagccca agtttcatgt taaaatggca aaatgccatt 1260
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aaacaaatct atatttaatg gatggactct tcaaaactta ccaaatagtt gaagaaacca 1380
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aa

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<210> 14
<211> 335
<212> PRT
<213> Homo sapiens

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<400> 14
Met Thr Thr Val Thr Val Thr Thr Glu Ile Pro Pro Arg Asp Lys Met
  1                      5                      10                      15

Glu Asp Asn Ser Ala Leu Tyr Glu Ser Thr Ser Ala His Ile Ile Glu
      20                      25                      30

Glu Thr Glu Tyr Val Lys Lys Ile Arg Thr Thr Leu Gln Lys Ile Arg
      35                      40                      45

Thr Gln Met Phe Lys Asp Glu Ile Arg His Asp Ser Thr Asn His Lys
      50                      55                      60

Leu Asp Ala Lys His Cys Gly Asn Leu Gln Gln Gly Ser Asp Ser Glu
      65                      70                      75                      80

Met Asp Pro Ser Cys Cys Ser Leu Asp Leu Leu Met Lys Lys Ile Lys
      85                      90                      95

Gly Lys Asp Leu Gln Leu Leu Glu Met Asn Lys Glu Asn Glu Val Leu
      100                      105                      110

Lys Ile Lys Leu Gln Ala Ser Arg Glu Ala Gly Ala Ala Ala Leu Arg
      115                      120                      125

Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln Ser Glu Glu
      130                      135                      140

Val Arg Lys Lys Gln Glu Asp Ser Lys Gln Leu Leu Gln Val Asn Lys
      145                      150                      155                      160

Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn Leu Asn Gln

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	165		170		175
Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr Glu Leu Glu					
	180		185		190
Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu Leu Glu Arg					
	195		200		205
Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser Ser Ala Thr					
	210		215		220
Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser Ile Leu Gln					
	225		230		235
Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln His Gln Asn					
	245		250		255
Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn Asn Leu Lys					
	260		265		270
Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val Asn Ile Leu					
	275		280		285
Glu Ala Gln Asn Lys Glu Leu Lys Thr Gln Val Ala Leu Ser Ser Glu					
	290		295		300
Thr Pro Arg Thr Lys Val Ser Lys Ala Val Ser Thr Ser Glu Leu Lys					
	305		310		315
Thr Glu Gly Val Ser Pro Tyr Leu Met Leu Ile Arg Leu Arg Lys					
	325		330		335

<210> 15  
 <211> 1056  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
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 gctggttttag ctcccttggg ggagtacaga ctgcttgga ggatgttcag gagggatgag 180  
 aacaggaaaag tagccttagt agggcttact gcggagacta gtcacgccct ggtccctaag 240  
 gagataccgg gaaaaggggg tatctggaga gtgatcttta agccccctga cccagataat 300  
 acatttttaa gcagattaaa tgaattttta gcgggagagg gcatgacagt ggggtgagttg 360  
 agcagagctc ttggacatga aaatggctcc ttagaccag agcagggcat gatcccgga 420  
 atgtgggccc ctatgttggc acaggcatta gaggtctctc agcctgccct gcaatgcttg 480  
 aagtataaaa agctgagagt gttctcgggc agggagtctc cagaaccagg agaagaagaa 540  
 tttggacgct ggatgtttca tactactcag atgataaagg cgtggcagggt gccagatgta 600  
 gagaagagaa ggcgattgct agagagcctt cgaggcccag cacttgatgt tattcgtgtc 660  
 ctcaagataa acaatccttt aattactgtc gatgaatgtc tgcaggctct tgaggaggta 720  
 tttggggtta cagataatcc tagggagttg cagggtcaaat atctaaccac ttaccagaag 780  
 gatgaggaaa agttgtcggc ttatgtacta aggctggagc ctttgttaca gaagctggta 840  
 cagagaggag caattgagag agatgctgtg aatcaggccc gcctagacca agtcattgct 900  
 ggggcagtc acaaaacaat tcgcagagag cttaatctgc cagaggatgg cccagcccct 960  
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 cttctccagg caatattgga aggtaatctc acctga 1056

<210> 16  
 <211> 351  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
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 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
           20                    25                    30  
 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
           35                    40                    45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
       50                    55                    60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
   65                    70                    75                    80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
           85                    90                    95  
 Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
           100                    105                    110  
 Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
       115                    120                    125  
 Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
       130                    135                    140  
 Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
   145                    150                    155                    160  
 Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
           165                    170                    175  
 Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
           180                    185                    190  
 Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
       195                    200                    205  
 Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
       210                    215                    220  
 Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
   225                    230                    235                    240  
 Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
           245                    250                    255  
 Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu

260	265	270
Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp		
275	280	285
Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His		
290	295	300
Lys Thr Ile Arg Arg Glu Leu Asn Leu Pro Glu Asp Gly Pro Ala Pro		
305	310	315
Gly Phe Leu Gln Leu Leu Val Leu Ile Lys Asp Tyr Glu Ala Ala Glu		
325	330	335
Glu Glu Glu Ala Leu Leu Gln Ala Ile Leu Glu Gly Asn Phe Thr		
340	345	350

<210> 17  
 <211> 499  
 <212> DNA  
 <213> Homo sapiens

<400> 17  
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 gcacgctccg cacaccagcc tgcgcgcacc atggggccacc gttcagcagc tggaaggaag 120  
 atggcgcttg gcggacagca aaggctttga tgcatacatg aagaaactag gagtgggaat 180  
 atctttgcgc aatatgggcg caatggccaa accagactgt atcatcactt gtgatggcaa 240  
 aaacctcacc ataaaaactg agagcacttt gaaaacaaca cagttttctt gtaccctggg 300  
 agagaagtgt gaaggaacca cagctgttgg cagaaaaact cagactgtct gcagctttac 360  
 agatgggtgca ttggttccgc atcaggagtg ggatgggaag gaaaacacaa taacaagaaa 420  
 attgaaagat gcatcagtgg tggatttgtt cacgaacaat gtcacctgta ctcggatcta 480  
 tgaaaaagta gaataaaaa 499

<210> 18  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Val Lys Asn Thr Asn Gln Tyr Ala Ala His Ala Asp Pro Ala Pro  
 1 5 10 15  
 Leu Val Pro His Ala Pro His Thr Ser Leu Arg Ala Pro Trp Ala Thr  
 20 25 30  
 Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser Lys Gly Phe  
 35 40 45  
 Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu Arg Asn Met  
 50 55 60  
 Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly Lys Asn  
 65 70 75 80  
 Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe Ser Cys



				85						90						95			
Thr	Leu	Gly	Glu	Lys	Phe	Glu	Gly	Thr	Thr	Ala	Val	Gly	Arg	Lys	Thr				
			100					105					110						
Gln	Thr	Val	Cys	Ser	Phe	Thr	Asp	Gly	Ala	Leu	Val	Pro	His	Gln	Glu				
		115					120					125							
Trp	Asp	Gly	Lys	Glu	Asn	Thr	Ile	Thr	Arg	Lys	Leu	Lys	Asp	Ala	Ser				
		130				135					140								
Val	Val	Asp	Cys	Val	Thr	Asn	Asn	Val	Thr	Cys	Thr	Arg	Ile	Tyr	Glu				
145					150					155					160				
Lys	Val	Glu																	

<210> 19  
 <211> 413  
 <212> DNA  
 <213> Homo sapiens

<400> 19  
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 ttgatgcata catgaagaaa ctaggagtgga gaatatcttt gcgcaatatg ggcgcaatgg 120  
 ccaaaccaga ctgtatcatc acttgtgatg gcaaaaacct caccataaaa actgagagca 180  
 ctttgaaaac aacacagttt tcttgtaccc tgggagagaa gtttgaagga accacagctg 240  
 ttggcagaaa aactcagact gtctgcagct ttacagatgg tgcattgggt ccgcatcagg 300  
 agtgggatgg gaaggaaaac acaataacaa gaaaattgaa agatgcatca gtggtggatt 360  
 gtgtcacgaa caatgtcacc tgtactcgga tctatgaaaa agtagaataa aaa 413

<210> 20  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser  
 1 5 10 15  
 Lys Gly Phe Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu  
 20 25 30  
 Arg Asn Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
 35 40 45  
 Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
 50 55 60  
 Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Gly Thr Thr Ala Val Gly  
 65 70 75 80  
 Arg Lys Thr Gln Thr Val Cys Ser Phe Thr Asp Gly Ala Leu Val Pro  
 85 90 95

His Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys  
 100 105 110

Asp Ala Ser Val Val Asp Cys Val Thr Asn Asn Val Thr Cys Thr Arg  
 115 120 125

Ile Tyr Glu Lys Val Glu  
 130

<210> 21  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
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 ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120  
 aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180  
 gacacctact tataatcgagt ccagaggcta attcgaagtc agatgcagct gacgacggga 240  
 gtggagtata tagtcactgt gaagattggc tggaccaaata gcaagaggaa tgacacgagc 300  
 aattcttcct gccccctgca aaccaagaag ctgagaaaga gtttaatttg cgagtcttta 360  
 atatacacca tgccctgggt aaactatttc cagctctgga acaattcctg tctggagccc 420  
 gagcatgtgg gcagaaacct cagatgaggg ctcatatgat tgagttgt 468

<210> 22  
 <211> 145  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Met Gly Ile Gly Cys Trp Arg Asn Pro Leu Leu Leu Ile Ala Leu  
 1 5 10 15

Val Leu Ser Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln  
 20 25 30

Gln Lys Leu Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe  
 35 40 45

Ile Gln Ser Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val  
 50 55 60

Gln Arg Leu Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr  
 65 70 75 80

Ile Val Thr Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr  
 85 90 95

Ser Asn Ser Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu  
 100 105 110

Ile Cys Glu Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln  
 115 120 125

Leu Trp Asn Asn Ser Cys Leu Glu Pro Glu His Val Gly Arg Asn Leu

130 135 140

Arg  
145

<210> 23  
<211> 278  
<212> PRT  
<213> Homo sapiens

<400> 23  
Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser Gly  
1 5 10 15  
Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser Arg  
20 25 30  
Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala Met  
35 40 45  
Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu Pro  
50 55 60  
Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile Gly  
65 70 75 80  
Thr Val Lys Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly Arg  
85 90 95  
Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser Thr  
100 105 110  
Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly Ser  
115 120 125  
His Ala Trp Leu Cys Cys Gln Gln Thr Ala Pro Asn Leu Pro Cys Ser  
130 135 140  
Ser Ser Gln Glu Lys Arg Pro Ala Ala Ser Leu Pro Gly Met Val Gly  
145 150 155 160  
Pro Leu Arg His Ser Leu Gly Val Gln Ala Thr His Pro His Ser Thr  
165 170 175  
Gly Val Arg Gly Ser Val Arg Pro Trp Asp Gly Pro Ala Gly Thr Gly  
180 185 190  
Gly Gln Arg Val Arg Gly Gly Arg Arg Ser Pro Thr Lys Gly Ser Ser  
195 200 205  
Gln Ala Cys Val Gly Pro Arg Gly Ala Ala Pro Pro Gly Trp Asp Lys  
210 215 220  
Ala Gly Ser Trp Leu Ser Ser Ala Thr Ala Gln Leu Pro Gln Gly Thr  
225 230 235 240

Lys Gly Arg Leu Arg Asp Glu Val Leu Thr His Thr Met Gly Lys Pro  
245 250 255

Arg His Gly Lys Val Gly Gly Gly Ala Ala Arg Leu Ala Pro Arg Ser  
260 265 270

Gln Ala Gly Arg Pro Glu  
275

<210> 24

<211> 284

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 24

Glu Pro Gly Pro Gly Gly Ala Pro Gly Gln Arg Gly Asp Pro Gly Asp  
1 5 10 15

Leu Gly Pro Gln Gly Ser Pro Gly Ser Pro Gly Phe Ala Gly Pro Pro  
20 25 30

Gly Arg Ser Gly Asn Pro Gly Pro Gln Gly Glu Leu Gly Pro Thr Gly  
35 40 45

Ala Arg Gly Glu Thr Gly Gly Pro Gly Pro Ser Gly Pro Thr Gly Asp  
50 55 60

Pro Gly Pro Gln Gly Pro Leu Gly Ala Pro Gly Gln Gln Gly Glu Arg  
65 70 75 80

Gly Glu Thr Gly Pro Gln Gly Gln Gly Gly Pro Pro Gly Pro Ile Gly  
85 90 95

Ser Leu Gly Ala Pro Gly Ala Gln Gly Pro Pro Gly Pro Thr Gly Pro  
100 105 110

Ser Gly Asn Ala Gly Ser Pro Gly Gln Pro Gly Ala Arg Gly Glu Pro  
115 120 125

Gly Gln Ser Gly Ser Pro Gly Gln Pro Gly Leu Ala Gly Arg Thr Gly  
130 135 140

Pro Ser Gly Glu Arg Gly Asp Lys Gly Asn Asp Gly Gln Ser Gly Pro  
145 150 155 160

Pro Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Gln Ser Gly Ile Leu  
165 170 175

Gly Leu Ala Gly Gly Ser Gly Pro Arg Gly Pro Gly Gly Pro Ala Gly  
180 185 190

Pro Pro Gly Ala Ala Gly Ser Arg Gly Pro Ala Gly Lys Ser Gly Asp  
195 200 205

Arg Gly Ser Pro Gly Ala Val Gly Pro Ala Gly Asn Pro Gly Pro Ala  
210 215 220

Gly Glu Asn Gly Met Pro Gly Ser Asp Gly Asn Asp Gly Ala Pro Gly  
 225 230 235 240  
 Pro Gln Gly Ser Arg Gly Glu Lys Gly Asp Thr Gly Ala Ser Gly Ala  
 245 250 255  
 Asn Gly Ser Pro Gly Ala Pro Gly Pro Ile Gly Ala Pro Gly Ala Ala  
 260 265 270  
 Gly Ala Ser Gly Pro Arg Gly Glu Thr Gly Ser Thr  
 275 280

<210> 25  
 <211> 420  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
 gttccccgct ccgctgaatg gctccagcca aatgcctgga aatccacccc gcctgccctt 60  
 caatgaccgc ttcttcgtgg tggagacgct gtgtatttgt tggttctcct ttgagctgct 120  
 ggtacgcctc ctggtctgtc caagcaaggc tatcttcttc aagaacgtga tgaacctcat 180  
 cgattttgtg gctatccttc cctactttgt ggcaactggc accgagctgg cccggcagcg 240  
 aggggtgggc cagcaggcca tgtcactggc catcctgaga gtcacccgat tgggtgcgtgt 300  
 cttccgcata ttcaagctgt cccggcactc aaagggcctg caaatcttgg gccagacgct 360  
 tcgggcctcc atgcgtgagc tgggcctcct catctttttc ctcttcacgc gtgtgggtcct 420

<210> 26  
 <211> 420  
 <212> DNA  
 <213> Homo sapiens

<400> 26  
 gttccccgct ccgctgaatg gctccagcca aatgcctgga aatccacccc gcctgccctt 60  
 caatgaccgc ttcttcgtgg tggagacgct gtgtatttgt tggttctcct ttgagctgct 120  
 ggtacgcctc ctggtctgtc caagcaaggc tatcttcttc aagaacgtga tgaacctcat 180  
 cgattttgtg gctatccttc cctactttgt ggcaactggc accgagctgg cccggcagcg 240  
 aggggtgggc cagcaggcca tgtcactggc catcctgaga gtcacccgat tgggtgcgtgt 300  
 cttccgcata ttcaagctgt cccggcactc aaagggcctg caaatcttgg gccagacgct 360  
 tcgggcctcc atgcgtgagc tgggcctcct catctttttc ctcttcacgc gtgtgggtcct 420

<210> 27  
 <211> 539  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Thr Gly Lys Ala Gln Ser Arg Arg Gly Arg Arg Arg Arg Gly Arg  
 1 5 10 15  
 Ala Gly Arg Ala Ser Arg Gln Arg Ala Arg Gly Arg Pro Val Ala Leu  
 20 25 30  
 Arg Pro Ala Gly Val Thr Val Pro Pro Pro Ser Arg Pro Ser Arg Pro

35					40					45						
Ala	Gly	Leu	Phe	Tyr	Ala	Arg	Thr	Pro	Asp	Thr	Gly	His	Arg	Ala	Gly	
50					55					60						
Ala	Ala	Val	Gly	Ala	Thr	Arg	Arg	Phe	Ala	Gly	Arg	Arg	Gly	Cys	Ala	
65					70					75					80	
Arg	His	Gly	Ala	Ala	Val	Pro	Ala	Ala	Pro	Cys	Gly	Cys	Cys	Glu	Arg	
85					90					95						
Leu	Val	Leu	Asn	Val	Ala	Gly	Leu	Arg	Phe	Glu	Thr	Arg	Ala	Arg	Thr	
100					105					110						
Leu	Gly	Arg	Phe	Pro	Asp	Thr	Leu	Leu	Gly	Asp	Pro	Ala	Arg	Arg	Gly	
115					120					125						
Arg	Phe	Tyr	Asp	Asp	Ala	Arg	Arg	Glu	Tyr	Phe	Phe	Asp	Arg	His	Arg	
130					135					140						
Pro	Ser	Phe	Asp	Ala	Val	Leu	Tyr	Tyr	Tyr	Gln	Ser	Gly	Gly	Arg	Leu	
145					150					155					160	
Arg	Arg	Pro	Ala	His	Val	Pro	Leu	Asp	Val	Phe	Leu	Glu	Glu	Val	Ala	
165					170					175						
Phe	Tyr	Gly	Leu	Gly	Ala	Ala	Ala	Leu	Ala	Arg	Leu	Arg	Glu	Asp	Glu	
180					185					190						
Gly	Cys	Pro	Val	Pro	Pro	Glu	Arg	Pro	Leu	Pro	Arg	Arg	Ala	Phe	Ala	
195					200					205						
Arg	Gln	Leu	Trp	Leu	Leu	Phe	Glu	Phe	Pro	Glu	Ser	Ser	Gln	Ala	Ala	
210					215					220						
Arg	Val	Leu	Ala	Val	Val	Ser	Val	Leu	Val	Ile	Leu	Val	Ser	Ile	Val	
225					230					235					240	
Val	Phe	Cys	Leu	Glu	Thr	Leu	Pro	Asp	Phe	Arg	Asp	Asp	Arg	Asp	Gly	
245					250					255						
Thr	Gly	Leu	Ala	Ala	Ala	Ala	Ala	Ala	Gly	Pro	Val	Phe	Pro	Ala	Pro	
260					265					270						
Leu	Asn	Gly	Ser	Ser	Gln	Met	Pro	Gly	Asn	Pro	Pro	Arg	Leu	Pro	Phe	
275					280					285						
Asn	Asp	Pro	Phe	Phe	Val	Val	Glu	Thr	Leu	Cys	Ile	Cys	Trp	Phe	Ser	
290					295					300						
Phe	Glu	Leu	Leu	Val	Arg	Leu	Leu	Val	Cys	Pro	Ser	Lys	Ala	Ile	Phe	
305					310					315					320	
Phe	Lys	Asn	Val	Met	Asn	Leu	Ile	Asp	Phe	Val	Ala	Ile	Leu	Pro	Tyr	
325					330					335						
Phe	Val	Ala	Leu	Gly	Thr	Glu	Leu	Ala	Arg	Gln	Arg	Gly	Val	Gly	Gln	

340                                      345                                      350  
 Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val  
           355                                      360                                      365  
 Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu  
           370                                      375                                      380  
 Gly Gln Thr Leu Arg Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe  
 385                                      390                                      395                                      400  
 Phe Leu Phe Ile Gly Val Val Leu Phe Ser Ser Ala Val Tyr Phe Ala  
                                     405                                      410                                      415  
 Glu Val Asp Arg Val Asp Ser His Phe Thr Ser Ile Pro Glu Ser Phe  
                                     420                                      425                                      430  
 Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met Ala  
           435                                      440                                      445  
 Pro Val Thr Val Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala  
           450                                      455                                      460  
 Gly Val Leu Thr Ile Ser Leu Pro Val Pro Val Ile Val Ser Asn Phe  
 465                                      470                                      475                                      480  
 Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Ala Gly Met Phe  
                                     485                                      490                                      495  
 Ser His Val Asp Met Gln Pro Cys Gly Pro Leu Glu Gly Lys Ala Asn  
                                     500                                      505                                      510  
 Gly Gly Leu Val Asp Gly Glu Val Pro Glu Leu Pro Pro Pro Leu Trp  
           515                                      520                                      525  
 Ala Pro Pro Arg Glu His Leu Val Thr Glu Val  
           530                                      535

<210> 28  
 <211> 530  
 <212> PRT  
 <213> Mus musculus

<400> 28  
 Thr Arg Lys Ala Gln Glu Ile His Gly Lys Ala Pro Gly Gly Ser Val  
   1                                      5                                      10                                      15  
 Ser Thr Gly Val Gly Thr Ala Glu Gly Ala Pro Ser Pro Ala Gly Val  
           20                                      25                                      30  
 Thr Pro Pro Pro Pro Pro Arg Pro Gly Arg Thr Phe His Ala Ile Phe  
           35                                      40                                      45  
 Thr Arg Arg His Arg Thr Pro Asp Trp Gly Gly Cys Gly Val Gly Ala  
           50                                      55                                      60

Thr Arg Pro Phe Thr Gly Arg Pro Gly Cys Ala Arg His Gly Ala Thr  
 65 70 75 80  
 Val Pro Ala Ala Leu Arg Cys Cys Glu Arg Leu Val Leu Asn Val Ala  
 85 90 95  
 Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp  
 100 105 110  
 Thr Leu Leu Gly Asp Pro Val Arg Arg Ser Arg Phe Tyr Asp Gly Ala  
 115 120 125  
 Arg Ala Glu Tyr Phe Phe Asp Arg His Arg Pro Ser Phe Asp Ala Val  
 130 135 140  
 Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala His Val  
 145 150 155 160  
 Pro Leu Asp Val Phe Leu Glu Glu Val Ser Phe Tyr Gly Leu Gly Arg  
 165 170 175  
 Arg Leu Ala Arg Leu Arg Glu Asp Glu Gly Cys Ala Val Ala Glu Arg  
 180 185 190  
 Pro Leu Pro Pro Pro Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe  
 195 200 205  
 Pro Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu  
 210 215 220  
 Val Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp  
 225 230 235 240  
 Phe Arg Asp Asp Arg Asp Asp Pro Gly Leu Ala Pro Val Ala Ala Ala  
 245 250 255  
 Thr Gly Ser Phe Leu Ala Arg Leu Asn Gly Ser Ser Pro Met Pro Gly  
 260 265 270  
 Ala Pro Pro Arg Gln Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr  
 275 280 285  
 Leu Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val His Leu Val Ala  
 290 295 300  
 Cys Pro Ser Lys Ala Val Phe Phe Lys Asn Val Met Asn Leu Ile Asp  
 305 310 315 320  
 Phe Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala  
 325 330 335  
 Arg Gln Arg Gly Val Gly Gln Pro Ala Met Ser Leu Ala Ile Leu Arg  
 340 345 350  
 Val Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His  
 355 360 365



Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg  
 370 375 380  
 Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe  
 385 390 395 400  
 Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Thr His Phe  
 405 410 415  
 Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr  
 420 425 430  
 Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val  
 435 440 445  
 Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val  
 450 455 460  
 Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu  
 465 470 475 480  
 Gly Glu Glu Ala Gly Met Tyr Ser His Val Asp Thr Gln Pro Cys Gly  
 485 490 495  
 Thr Leu Glu Gly Lys Ala Asn Gly Gly Leu Val Asp Ser Glu Val Pro  
 500 505 510  
 Glu Leu Leu Pro Pro Leu Trp Pro Pro Ala Gly Lys His Met Val Thr  
 515 520 525  
 Glu Val  
 530

<210> 29  
 <211> 425  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Gly Arg Arg Gly Cys Ala Arg His Gly Ala Ala Val Pro Ala Ala Pro  
 1 5 10 15  
 Cys Gly Cys Cys Glu Arg Leu Val Leu Asn Val Ala Gly Leu Arg Phe  
 20 25 30  
 Glu Thr Arg Ala Arg Thr Leu Gly Arg Phe Pro Asp Thr Leu Leu Gly  
 35 40 45  
 Asp Pro Ala Arg Arg Gly Arg Phe Tyr Asp Asp Ala Arg Arg Glu Tyr  
 50 55 60  
 Phe Phe Asp Arg His Arg Pro Ser Phe Asp Ala Val Leu Tyr Tyr Tyr  
 65 70 75 80  
 Gln Ser Gly Gly Arg Leu Arg Arg Pro Ala His Val Pro Leu Asp Val  
 85 90 95

Phe Leu Glu Glu Val Ala Phe Tyr Gly Leu Gly Ala Ala Ala Leu Ala  
100 105 110  
Arg Leu Arg Glu Asp Glu Gly Cys Pro Val Pro Pro Glu Arg Pro Leu  
115 120 125  
Pro Arg Arg Ala Phe Ala Arg Gln Leu Trp Leu Leu Phe Glu Phe Pro  
130 135 140  
Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val Val Ser Val Leu Val  
145 150 155 160  
Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu Thr Leu Pro Asp Phe  
165 170 175  
Arg Asp Asp Arg Asp Gly Thr Gly Leu Ala Ala Ala Ala Ala Ala Gly  
180 185 190  
Pro Val Phe Pro Ala Pro Leu Asn Gly Ser Ser Gln Met Pro Gly Asn  
195 200 205  
Pro Pro Arg Leu Pro Phe Asn Asp Pro Phe Phe Val Val Glu Thr Leu  
210 215 220  
Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val Arg Leu Leu Val Cys  
225 230 235 240  
Pro Ser Lys Ala Ile Phe Phe Lys Asn Val Met Asn Leu Ile Asp Phe  
245 250 255  
Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly Thr Glu Leu Ala Arg  
260 265 270  
Gln Arg Gly Val Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val  
275 280 285  
Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser  
290 295 300  
Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser Met Arg Glu  
305 310 315 320  
Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val Leu Phe Ser  
325 330 335  
Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Ser His Phe Thr  
340 345 350  
Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met Thr Thr Val  
355 360 365  
Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys Ile Val Gly  
370 375 380  
Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu Pro Val Pro  
385 390 395 400

Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu Thr Glu Gly  
405 410 415

Glu Glu Ala Gly Met Phe Ser His Val  
420 425

<210> 30  
<211> 424  
<212> PRT  
<213> Homo sapiens

<400> 30  
Gly Gly Gly Gly Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro  
1 5 10 15

Ala Ala Gly Glu Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile  
20 25 30

Ser Gly Leu Arg Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro  
35 40 45

Glu Thr Leu Leu Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro  
50 55 60

Leu Arg Asn Glu Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala  
65 70 75 80

Ile Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn  
85 90 95

Val Pro Ile Asp Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly  
100 105 110

Glu Glu Ala Met Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu  
115 120 125

Glu Glu Arg Pro Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu  
130 135 140

Leu Phe Glu Tyr Pro Glu Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile  
145 150 155 160

Val Ser Val Leu Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu  
165 170 175

Thr Leu Pro Glu Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser  
180 185 190

Gln Asp Ser Phe Glu Ala Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala  
195 200 205

Gly Ala Ser Ser Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys  
210 215 220

Ile Ile Trp Phe Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro



Gly	Ala	Thr	Arg	Pro	Phe	Thr	Gly	Arg	Pro	Gly	Cys	Ala	Arg	His	Gly	65	70	75	80
Ala	Thr	Val	Pro	Ala	Ala	Leu	Arg	Cys	Cys	Glu	Arg	Leu	Val	Leu	Asn	85	90	95	
Val	Ala	Gly	Leu	Arg	Phe	Glu	Thr	Arg	Ala	Arg	Thr	Leu	Gly	Arg	Phe	100	105	110	
Pro	Asp	Thr	Leu	Leu	Gly	Asp	Pro	Val	Arg	Arg	Ser	Arg	Phe	Tyr	Asp	115	120	125	
Gly	Ala	Arg	Ala	Glu	Tyr	Phe	Phe	Asp	Arg	His	Arg	Pro	Ser	Phe	Asp	130	135	140	
Ala	Val	Leu	Tyr	Tyr	Tyr	Gln	Ser	Gly	Gly	Arg	Leu	Arg	Arg	Pro	Ala	145	150	155	160
His	Val	Pro	Leu	Asp	Val	Phe	Leu	Glu	Glu	Val	Ser	Phe	Tyr	Gly	Leu	165	170	175	
Gly	Arg	Arg	Leu	Ala	Arg	Leu	Arg	Glu	Asp	Glu	Gly	Cys	Ala	Val	Ala	180	185	190	
Glu	Arg	Pro	Leu	Pro	Pro	Pro	Phe	Ala	Arg	Gln	Leu	Trp	Leu	Leu	Phe	195	200	205	
Glu	Phe	Pro	Glu	Ser	Ser	Gln	Ala	Ala	Arg	Val	Leu	Ala	Val	Val	Ser	210	215	220	
Val	Leu	Val	Ile	Leu	Val	Ser	Ile	Val	Val	Phe	Cys	Leu	Glu	Thr	Leu	225	230	235	240
Pro	Asp	Phe	Arg	Asp	Asp	Arg	Asp	Asp	Pro	Gly	Leu	Ala	Pro	Val	Ala	245	250	255	
Ala	Ala	Thr	Gly	Ser	Phe	Leu	Ala	Arg	Leu	Asn	Gly	Ser	Ser	Pro	Met	260	265	270	
Pro	Gly	Ala	Pro	Pro	Arg	Gln	Pro	Phe	Asn	Asp	Pro	Phe	Phe	Val	Val	275	280	285	
Glu	Thr	Leu	Cys	Ile	Cys	Trp	Phe	Ser	Phe	Glu	Leu	Leu	Val	His	Leu	290	295	300	
Val	Ala	Cys	Pro	Ser	Lys	Ala	Val	Phe	Phe	Lys	Asn	Val	Met	Asn	Leu	305	310	315	320
Ile	Asp	Phe	Val	Ala	Ile	Leu	Pro	Tyr	Phe	Val	Ala	Leu	Gly	Thr	Glu	325	330	335	
Leu	Ala	Arg	Gln	Arg	Gly	Val	Gly	Gln	Pro	Ala	Met	Ser	Leu	Ala	Ile	340	345	350	
Leu	Arg	Val	Ile	Arg	Leu	Val	Arg	Val	Phe	Arg	Ile	Phe	Lys	Leu	Ser	355	360	365	

Arg His Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg Ala Ser  
 370 375 380  
 Met Arg Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly Val Val  
 385 390 395 400  
 Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val Asp Thr  
 405 410 415  
 His Phe Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val Thr Met  
 420 425 430  
 Thr Thr Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly Gly Lys  
 435 440 445  
 Ile Val Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile Ser Leu  
 450 455 460  
 Pro Val Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His Arg Glu  
 465 470 475 480  
 Thr Glu Gly Glu Glu Ala Gly Met Tyr Ser His Val Asp Thr Gln Pro  
 485 490 495  
 Cys Gly Thr Leu Glu Gly Lys Ala Asn Gly Gly Leu Val Asp Ser Glu  
 500 505 510  
 Val Pro Glu Leu Leu Pro Pro Leu Trp Pro Pro Ala Gly Lys His Met  
 515 520 525  
 Val Thr Glu Val  
 530

<210> 32  
 <211> 523  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Met Thr Val Val Pro Gly Asp His Leu Leu Glu Pro Glu Val Ala Asp  
 1 5 10 15  
 Gly Gly Gly Ala Pro Pro Gln Gly Gly Cys Gly Gly Gly Gly Cys Asp  
 20 25 30  
 Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro Ala Ala Gly Glu Gln Asp  
 35 40 45  
 Cys Cys Gly Glu Arg Val Val Ile Asn Ile Ser Gly Leu Arg Phe Glu  
 50 55 60  
 Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro Glu Thr Leu Leu Gly Asp  
 65 70 75 80  
 Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro Leu Arg Asn Glu Tyr Phe  
 85 90 95

Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala Ile Leu Tyr Tyr Tyr Gln  
100 105 110  
Ser Gly Gly Arg Ile Arg Arg Pro Val Asn Val Pro Ile Asp Ile Phe  
115 120 125  
Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly Glu Glu Ala Met Glu Lys  
130 135 140  
Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu Glu Glu Arg Pro Leu Pro  
145 150 155 160  
Arg Arg Asp Phe Gln Arg Gln Val Trp Leu Leu Phe Glu Tyr Pro Glu  
165 170 175  
Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile Val Ser Val Leu Val Ile  
180 185 190  
Leu Ile Ser Ile Val Ile Phe Cys Leu Glu Thr Leu Pro Glu Phe Arg  
195 200 205  
Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser Gln Asp Ser Phe Glu Ala  
210 215 220  
Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala Gly Ala Ser Ser Phe Ser  
225 230 235 240  
Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile Ile Trp Phe Ser Phe  
245 250 255  
Glu Leu Leu Val Arg Phe Phe Ala Cys Pro Ser Lys Ala Thr Phe Ser  
260 265 270  
Arg Asn Ile Met Asn Leu Ile Asp Ile Val Ala Ile Ile Pro Tyr Phe  
275 280 285  
Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg Gln Gly Asn Gly Gln Gln  
290 295 300  
Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val Phe  
305 310 315 320  
Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu Gly  
325 330 335  
Gln Thr Leu Lys Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe Phe  
340 345 350  
Leu Phe Ile Gly Val Ile Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu  
355 360 365  
Ala Asp Asp Pro Thr Ser Gly Phe Ser Ser Ile Pro Asp Ala Phe Trp  
370 375 380  
Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met His Pro  
385 390 395 400

Val Thr Ile Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala Gly  
 405 410 415  
 Val Leu Thr Ile Ala Leu Pro Val Pro Val Ile Val Ser Asn Phe Asn  
 420 425 430  
 Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Gln Ser Gln Tyr Met  
 435 440 445  
 His Val Gly Ser Cys Gln His Leu Ser Ser Ser Ala Glu Glu Leu Arg  
 450 455 460  
 Lys Ala Arg Ser Asn Ser Thr Leu Ser Lys Ser Glu Tyr Met Val Ile  
 465 470 475 480  
 Glu Glu Gly Gly Met Asn His Ser Ala Phe Pro Gln Thr Pro Phe Lys  
 485 490 495  
 Thr Gly Asn Ser Thr Ala Thr Cys Thr Thr Asn Asn Asn Pro Asn Ser  
 500 505 510  
 Cys Val Asn Ile Lys Lys Ile Phe Thr Asp Val  
 515 520

<210> 33  
 <211> 525  
 <212> PRT  
 <213> Rattus norvegicus

<400> 33  
 Met Thr Val Val Pro Gly Asp His Leu Leu Glu Pro Glu Ala Ala Gly  
 1 5 10 15  
 Gly Gly Gly Gly Asp Pro Pro Gln Gly Gly Cys Val Ser Gly Gly Gly  
 20 25 30  
 Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ala Leu Pro Ala Ala Gly Glu  
 35 40 45  
 Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile Ser Gly Leu Arg  
 50 55 60  
 Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro Glu Thr Leu Leu  
 65 70 75 80  
 Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro Leu Arg Asn Glu  
 85 90 95  
 Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala Ile Leu Tyr Tyr  
 100 105 110  
 Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn Val Pro Ile Asp  
 115 120 125  
 Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly Glu Glu Ala Met



130	135	140
Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu Glu Glu Arg Pro		
145	150	155 160
Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu Leu Phe Glu Tyr		
	165	170 175
Pro Glu Ser Ser Arg Pro Ala Arg Gly Ile Ala Ile Val Ser Val Leu		
	180	185 190
Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu Thr Leu Pro Glu		
	195	200 205
Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Pro Ser Gln Asp Val Phe		
	210	215 220
Glu Ala Ala Asn Asn Ser Thr Ser Gly Ala Ser Ser Gly Ala Ser Ser		
225	230	235 240
Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys Ile Ile Trp Phe		
	245	250 255
Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro Ser Lys Ala Thr		
	260	265 270
Phe Ser Arg Asn Ile Met Asn Leu Ile Asp Ile Val Ala Ile Ile Pro		
	275	280 285
Tyr Phe Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg Gln Gly Asn Gly		
	290	295 300
Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg		
305	310	315 320
Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile		
	325	330 335
Leu Gly Gln Thr Leu Lys Ala Ser Met Arg Glu Leu Gly Leu Leu Ile		
	340	345 350
Phe Phe Leu Phe Ile Gly Val Ile Leu Phe Ser Ser Ala Val Tyr Phe		
	355	360 365
Ala Glu Ala Asp Asp Pro Ser Ser Gly Phe Asn Ser Ile Pro Asp Ala		
	370	375 380
Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met		
385	390	395 400
His Pro Val Thr Ile Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile		
	405	410 415
Ala Gly Val Leu Thr Ile Ala Leu Pro Val Pro Val Ile Val Ser Asn		
	420	425 430
Phe Asn Tyr Phe Tyr His Arg Glu Thr Glu Gly Glu Glu Gln Ala Gln		

435	440	445
Tyr Met His Val Gly Ser Cys Gln His Leu Ser Ser Ser Ala Glu Glu		
450	455	460
Leu Arg Lys Ala Arg Ser Asn Ser Thr Leu Ser Lys Ser Glu Tyr Met		
465	470	475
Val Ile Glu Glu Gly Gly Met Asn His Ser Ala Phe Pro Gln Thr Pro		
	485	490
		495
Phe Lys Thr Gly Asn Ser Thr Ala Thr Cys Thr Thr Asn Asn Asn Pro		
	500	505
		510
Asn Ser Cys Val Asn Ile Lys Lys Ile Phe Thr Asp Val		
	515	520
		525

<210> 34  
 <211> 360  
 <212> DNA  
 <213> Homo sapiens

<400> 34  
 agtttggatt tgcttatgaa aaagataaaa ggaaaagacc tacagctctt agaaatgaac 60  
 aaagagaatg aagtattgaa aatcaagctg caagcctcca gagaagcagg agcagcagct 120  
 ctgagaaaacg tggcccagag attatttgaa aactaccaa cgcaatctga agaagtgaga 180  
 aagaagcagg agggcagtaa acaattactc caggttaaca agcttgaaaa agaacagaaa 240  
 ttgaaacaac atgttgaaaa tctgaatcaa gttgctgaaa aacttgaaga aaaacacagt 300  
 caaattacag aattggagaa ccttgtacag agaatggaaa aggaaaagag aacactacta 360

<210> 35  
 <211> 360  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 agtttggatt tgcttatgaa aaagataaaa ggaaaagacc tacagctctt agaaatgaac 60  
 aaagagaatg aagtattgaa aatcaagctg caagcctcca gagaagcagg agcagcagct 120  
 ctgagaaaacg tggcccagag attatttgaa aactaccaa cgcaatctga agaagtgaga 180  
 aagaagcagg aggcagagtaa acaattactc caggttaaca agcttgaaaa agaacagaaa 240  
 ttgaaacaac atgttgaaaa tctgaatcaa gttgctgaaa aacttgaaga aaaacacagt 300  
 caaattacag aattggagaa ccttgtacag agaatggaaa aggaaaagag aacactacta 360

<210> 36  
 <211> 170  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Ala Leu Arg Asn Val Ala Gln Arg Leu Phe Glu Asn Tyr Gln Thr Gln  
 1 5 10 15  
 Ser Glu Glu Val Arg Lys Lys Gln Glu Gly Ser Lys Gln Leu Leu Gln  
 20 25 30

Val Asn Lys Leu Glu Lys Glu Gln Lys Leu Lys Gln His Val Glu Asn  
 35 40 45  
 Leu Asn Gln Val Ala Glu Lys Leu Glu Glu Lys His Ser Gln Ile Thr  
 50 55 60  
 Glu Leu Glu Asn Leu Val Gln Arg Met Glu Lys Glu Lys Arg Thr Leu  
 65 70 75 80  
 Leu Glu Arg Lys Leu Ser Leu Glu Asn Lys Leu Leu Gln Leu Lys Ser  
 85 90 95  
 Ser Ala Thr Tyr Gly Lys Ser Cys Gln Asp Leu Gln Arg Glu Ile Ser  
 100 105 110  
 Ile Leu Gln Glu Gln Ile Ser His Leu Gln Phe Val Ile His Ser Gln  
 115 120 125  
 His Gln Asn Leu Arg Ser Val Ile Gln Glu Met Glu Gly Leu Lys Asn  
 130 135 140  
 Asn Leu Lys Glu Gln Asp Lys Arg Ile Glu Asn Leu Arg Glu Lys Val  
 145 150 155 160  
 Asn Ile Leu Glu Ala Gln Asn Lys Glu Leu  
 165 170

<210> 37  
 <211> 170  
 <212> PRT  
 <213> Bos taurus

<400> 37  
 Ser Leu Arg Lys Thr Val Gln Asp Leu Leu Val Lys Leu Gln Glu Ala  
 1 5 10 15  
 Glu Gln Gln His Gln Ser Asp Cys Ser Ala Phe Lys Val Thr Leu Ser  
 20 25 30  
 Gln Tyr Gln Arg Glu Ala Lys Gln Ser Gln Val Ala Leu Gln Arg Ala  
 35 40 45  
 Glu Asp Arg Ala Glu Gln Lys Glu Ala Glu Val Gly Glu Leu Gln Arg  
 50 55 60  
 Arg Leu Gln Gly Met Glu Thr Glu Tyr Gln Ala Ile Leu Ala Lys Val  
 65 70 75 80  
 Arg Glu Gly Glu Thr Ala Leu Glu Glu Leu Arg Ser Lys Asn Val Asp  
 85 90 95  
 Cys Gln Ala Glu Gln Glu Lys Ala Ala Asn Leu Glu Lys Glu Val Ala  
 100 105 110  
 Gly Leu Arg Glu Lys Ile His His Leu Asp Asp Met Leu Lys Ser Gln

115                      120                      125  
 Gln Arg Lys Val Arg Gln Met Ile Glu Gln Leu Gln Asn Ser Lys Ala  
 130                      135                      140  
 Val Ile Gln Ser Lys Asp Thr Thr Ile Gln Glu Leu Lys Glu Lys Ile  
 145                      150                      155                      160  
 Ala Tyr Leu Glu Ala Glu Asn Leu Glu Met  
 165                      170

<210> 38  
 <211> 1056  
 <212> DNA  
 <213> Homo sapiens

<400> 38  
 atgacttttga ggctttttaga agactggtgc aggggggatgg acatgaaccc tcggaaagcg 60  
 ctattgattg ccggcatctc ccagagctgc agtgtggcag aaatcgagga ggctctgcag 120  
 gctggtttag ctcccttggg ggagtacaga ctgcttggaa ggatgttcag gagggatgag 180  
 aacaggaaag tagccttagt agggcttact gcggagacta gtcacgccct ggtccctaag 240  
 gagataccgg gaaaaggggg tatctggaga gtgatcttta agccccctga cccagataat 300  
 acatttttta gcagattaaa tgaattttta gcgggagagg gcatgacagt gggtgagttg 360  
 agcagagctc ttggacatga aaatggctcc ttagaccag agcagggcat gatcccgga 420  
 atgtgggccc ctatgttggc acaggcatta gaggtcttc agcctgccct gcaatgcttg 480  
 aagtataaaa agctgagagt gttctcgggc agggagtctc cagaaccagg agaagaagaa 540  
 tttggacgct ggatgtttca tactactcag atgataaagg cgtggcagggt gccagatgta 600  
 gagaagagaa ggcgattgct agagagcctt cgaggcccag cacttgatgt tattcgtgtc 660  
 ctcaagataa acaatccttt aattactgtc gatgaatgtc tgcaggctct tgaggaggta 720  
 tttgggggta cagataatcc tagggagttg cagggtcaa atctaaccac ttaccagaag 780  
 gatgaggaaa agttgtcggc ttatgtacta aggttgagc ctttggtaca gaagctggta 840  
 cagagaggag caattgagag agatgctgtg aatcaggccc gcctagacca agtcattgct 900  
 ggggcagtc acaaaacaat tcgcagagag cttaatctgc cagaggatgg cccagcccct 960  
 ggtttcttgc agttattggt actaataaag gattatgagg cagctgagga ggaggaggcc 1020  
 cttctccagg caatattgga aggttaatttc acctga 1056

<210> 39  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 39  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
 1                      5                      10                      15  
 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
 20                      25                      30  
 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35                      40                      45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50                      55                      60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys

65	70	75	80
Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro	85	90	95
Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly	100	105	110
Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn	115	120	125
Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro	130	135	140
Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu	145	150	155
Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro	165	170	175
Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile	180	185	190
Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu	195	200	205
Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn	210	215	220
Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val	225	230	235
Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr	245	250	255
Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu	260	265	270
Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp	275	280	285
Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His	290	295	300
Lys Thr Ile Arg Arg Glu Leu Asn Leu Pro Glu Asp Gly Pro Ala Pro	305	310	315
			320

Gly

<210> 40  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens  
 <220>

<221> VARIANT

<222> (20)

<223> Wherein Xaa is any amino acid as defined in the  
specification

<400> 40

Met Ala Met Thr Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Val Asn  
1 5 10 15

Ser Gln Arg Xaa Leu Leu Val Trp Gly Ile Pro Val Asn Cys Asp Glu  
20 25 30

Ala Glu Ile Glu Glu Thr Leu Gln Ala Ala Met Pro Gln Val Ser Tyr  
35 40 45

Arg Met Leu Gly Arg Met Phe Trp Arg Glu Glu Asn Ala Lys Ala Ala  
50 55 60

Leu Leu Glu Leu Thr Gly Ala Val Asp Tyr Ala Ala Ile Pro Arg Glu  
65 70 75 80

Met Pro Gly Lys Gly Gly Val Trp Lys Val Leu Phe Lys Pro Pro Thr  
85 90 95

Ser Asp Ala Glu Phe Leu Glu Arg Leu His Leu Phe Leu Ala Arg Glu  
100 105 110

Gly Trp Thr Val Gln Asp Val Ala Arg Val Leu Gly Phe Gln Asn Pro  
115 120 125

Thr Pro Thr Pro Gly Pro Glu Met Pro Ala Glu Met Leu Asn Tyr Ile  
130 135 140

Leu Asp Asn Val Ile Gln Pro Leu Val Glu Ser Ile Trp Tyr Lys Arg  
145 150 155 160

Leu Thr Leu Phe Ser Gly Lys Gly His Pro Arg Ala Trp Arg Gly Asn  
165 170 175

Phe Asp Pro Trp Leu Glu His Thr Asn Glu Val Leu Glu Glu Trp Gln  
180 185 190

Val Ser Asp Val Glu Lys Arg Arg Arg Leu Met Glu Ser Leu Arg Gly  
195 200 205

Pro Ala Ala Asp Val Ile Arg Ile Leu Lys Ser Asn Asn Pro Ala Ile  
210 215 220

Thr Thr Ala Glu Cys Leu Lys Ala Leu Glu Gln Val Phe Gly Ser Val  
225 230 235 240

Glu Ser Ser Arg Asp Ala Gln Ile Lys Phe Leu Asn Thr Tyr Gln Asn  
245 250 255

Pro Gly Glu Lys Leu Ser Ala Tyr Val Ile Arg Leu Glu Pro Leu Leu  
260 265 270

Gln Lys Val Val Glu Lys Gly Ala Ile Asp Lys Asp Asn Val Asn Gln  
 275 280 285

Ala Arg Leu Glu Gln Val Ile Ala Gly Ala Asn His Ser Gly Ala Ile  
 290 295 300

Arg Arg Gln Leu Trp Leu Thr Gly Ala Gly Glu Gly Pro Gly  
 305 310 315

<210> 41  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn Pro Arg  
 1 5 10 15

Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val Ala Glu  
 20 25 30

Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu Tyr Arg  
 35 40 45

Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val Ala Leu  
 50 55 60

Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys Glu Ile  
 65 70 75 80

Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro Asp Pro  
 85 90 95

Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly Glu Gly  
 100 105 110 .

Met Thr Val Gly Glu Leu Ser Arg  
 115 120

<210> 42  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
 Leu Ala Leu Leu Glu Asp Trp Cys Arg Ile Met Ser Val Asp Glu Gln  
 1 5 10 15

Lys Ser Leu Met Val Thr Gly Ile Pro Ala Asp Phe Glu Glu Ala Glu  
 20 25 30

Ile Gln Glu Val Leu Gln Glu Thr Leu Lys Ser Leu Gly Arg Tyr Arg  
 35 40 45

Leu Leu Gly Lys Ile Phe Arg Lys Gln Glu Asn Ala Asn Ala Val Leu

50	55	60
Leu Glu Leu Leu Glu Asp Thr Asp Val Ser Ala Ile Pro Ser Glu Val		
65	70	75 80
Gln Gly Lys Gly Gly Val Trp Lys Val Ile Phe Lys Thr Pro Asn Gln		
	85	90 95
Asp Thr Glu Phe Leu Glu Arg Leu Asn Leu Phe Leu Glu Lys Glu Gly		
	100	105 110
Gln Thr Val Ser Gly Met Phe Arg		
	115	120

<210> 43  
 <211> 438  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 cacgctccgc acaccagcct gcgcgcacca tgggccaccg ttcagcagct ggaaggaaga 60  
 tggcgccctgg cggacagcaa aggcctttgat gcatacatga agaaactagg agtggggaata 120  
 tctttgcgca atatgggcgc aatggccaaa ccagactgta tcatcacttg tgatggcaaa 180  
 aacctcacca taaaaactga gagcactttg aaaacaacac agttttcttg taccctggga 240  
 gagaagtttg aaggaaccac agctgttggc agaaaaactc agactgtctg cagctttaca 300  
 gatggtgcat tggttccgca tcaggagtgg gatgggaagg aaaacacaat aacaagaaaa 360  
 ttgaaagatg catcagtggg ggattgtgtc acgaacaatg tcacctgtac tcggatctat 420  
 gaaaaagtag aataaaaa 438

<210> 44  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 44  
 ccctctctgc acgccagccc gcccgcaccc accatggcca cagttcagca gctggaagga 60  
 agatggcgcc tgggtggacag caaaggcttt gatgaatata tgaaggagct aggagtggga 120  
 atagctttgc gaaaaatggg cgcaatggcc aagccagatt gtatcatcac ttgtgatggg 180  
 aaaaacctca ccataaaaac tgagagcact ttgaaaacaa cacagttttc ttgtacctg 240  
 ggagagaagt ttgaagaaac cacagctgat ggcagaaaaa ctcagactgt ctgcaacttt 300  
 acagatgggtg cattggttca gcatcaggag tgggatggga aggaaagcac aataacaaga 360  
 aaattgaaag atgggaaatt agtgggtggag tgtgtcatga acaatgtcac ctgtactcgg 420  
 atctatgaaa aagtagaata aaaa 444

<210> 45  
 <211> 403  
 <212> DNA  
 <213> Homo sapiens

<400> 45  
 ggccaccgtt cagcagctgg aaggaagatg gcgcctggcg gacagcaaag gctttgatgc 60  
 atacatgaag aaactaggag tgggaatatc tttgcgcaat atgggcgcaa tggccaaacc 120  
 agactgtatc atcacttgtg atggcaaaaa cctcaccata aaaactgaga gcactttgaa 180  
 aacaacacag ttttcttgta ccctgggaga gaagtttgaa ggaaccacag ctgttggcag 240



aaaaactcag actgtctgca gctttacaga tgggtgcattg gttccgcatc aggagtggga 300  
 tgggaaggaa aacacaataa caagaaaatt gaaagatgca tcagtgggtg attgtgtcac 360  
 gaacaatgtc acctgtactc ggatctatga aaaagtagaa taa 403

<210> 46  
 <211> 406  
 <212> DNA  
 <213> Homo sapiens

<400> 46  
 gccacagtt cagcagctgg aaggaagatg ggcctgggtg gacagcaaag gctttgatga 60  
 atacatgaag gagctaggag tgggaatagc tttgcgaaaa atgggcgcaa tggccaagcc 120  
 agattgtatc atcacttggtg atggtaaaaa cctcaccata aaaactgaga gcactttgaa 180  
 aacaacacag ttttcttgta ccctgggaga gaagtttgaa gaaaccacag ctgatggcag 240  
 aaaaactcag actgtctgca actttacaga tgggtgcattg gttcagcatc aggagtggga 300  
 tgggaaggaa agcacaataa caagaaaatt gaaagatggg aaattagtgg tggagtgtgt 360  
 catgaacaat gtcacctgta ctcggatcta tgaaaaagta gaataa 406

<210> 47  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
 Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Ala Asp Ser Lys  
 1 5 10 15  
 Gly Phe Asp Ala Tyr Met Lys Lys Leu Gly Val Gly Ile Ser Leu Arg  
 20 25 30  
 Asn Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly  
 35 40 45  
 Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe  
 50 55 60  
 Ser Cys Thr Leu Gly Glu Lys Phe Glu Gly Thr Thr Ala Val Gly Arg  
 65 70 75 80  
 Lys Thr Gln Thr Val Cys Ser Phe Thr Asp Gly Ala Leu Val Pro His  
 85 90 95  
 Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys Asp  
 100 105 110  
 Ala Ser Val Val Asp Cys Val Thr Asn Asn Val Thr Cys Thr Arg Ile  
 115 120 125  
 Tyr Glu Lys Val Glu  
 130

<210> 48  
 <211> 134  
 <212> PRT

<213> Homo sapiens

<400> 48

Ala	Thr	Val	Gln	Gln	Leu	Glu	Gly	Arg	Trp	Arg	Leu	Val	Asp	Ser	Lys	
1				5				10						15		
Gly	Phe	Asp	Glu	Tyr	Met	Lys	Glu	Leu	Gly	Val	Gly	Ile	Ala	Leu	Arg	
			20					25					30			
Lys	Met	Gly	Ala	Met	Ala	Lys	Pro	Asp	Cys	Ile	Ile	Thr	Cys	Asp	Gly	
		35					40					45				
Lys	Asn	Leu	Thr	Ile	Lys	Thr	Glu	Ser	Thr	Leu	Lys	Thr	Thr	Gln	Phe	
	50					55					60					
Ser	Cys	Thr	Leu	Gly	Glu	Lys	Phe	Glu	Glu	Thr	Thr	Ala	Asp	Gly	Arg	
65					70					75					80	
Lys	Thr	Gln	Thr	Val	Cys	Asn	Phe	Thr	Asp	Gly	Ala	Leu	Val	Gln	His	
				85					90					95		
Gln	Glu	Trp	Asp	Gly	Lys	Glu	Ser	Thr	Ile	Thr	Arg	Lys	Leu	Lys	Asp	
			100					105					110			
Gly	Lys	Leu	Val	Val	Glu	Cys	Val	Met	Asn	Asn	Val	Thr	Cys	Thr	Arg	
		115					120					125				
Ile	Tyr	Glu	Lys	Val	Glu											
	130															

<210> 49

<211> 135

<212> PRT

<213> Homo sapiens

<400> 49

Met	Ala	Thr	Val	Gln	Gln	Leu	Glu	Gly	Arg	Trp	Arg	Leu	Val	Asp	Ser	
1				5				10						15		
Lys	Gly	Phe	Asp	Glu	Tyr	Met	Lys	Glu	Leu	Gly	Val	Gly	Ile	Ala	Leu	
			20					25					30			
Arg	Lys	Met	Gly	Ala	Met	Ala	Lys	Pro	Asp	Cys	Ile	Ile	Thr	Cys	Asp	
		35					40					45				
Gly	Lys	Asn	Leu	Thr	Ile	Lys	Thr	Glu	Ser	Thr	Leu	Lys	Thr	Thr	Gln	
	50					55					60					
Phe	Ser	Cys	Thr	Leu	Gly	Glu	Lys	Phe	Glu	Glu	Thr	Thr	Ala	Asp	Gly	
65					70					75					80	
Arg	Lys	Thr	Gln	Thr	Val	Cys	Asn	Phe	Thr	Asp	Gly	Ala	Leu	Val	Gln	
			85					90					95			
His	Gln	Glu	Trp	Asp	Gly	Lys	Glu	Ser	Thr	Ile	Thr	Arg	Lys	Leu	Lys	
		100					105						110			

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr  
 115 120 125

Arg Ile Tyr Glu Lys Val Glu  
 130 135

<210> 50  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 50  
 Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser  
 1 5 10 15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu  
 20 25 30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
 35 40 45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
 50 55 60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly  
 65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
 100 105 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr  
 115 120 125

Arg Ile Tyr Glu Lys Val Glu  
 130 135

<210> 51  
 <211> 135  
 <212> PRT  
 <213> Rattus norvegicus

<400> 51  
 Met Ala Ser Leu Lys Asp Leu Glu Gly Lys Trp Arg Leu Val Glu Ser  
 1 5 10 15

His Gly Phe Glu Asp Tyr Met Lys Glu Leu Gly Val Gly Leu Ala Leu  
 20 25 30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Leu Asp  
 35 40 45

Gly Asn Asn Leu Thr Val Lys Thr Glu Ser Thr Val Lys Thr Thr Val  
     50                    55                    60  
 Phe Ser Cys Thr Leu Gly Glu Lys Phe Asp Glu Thr Thr Ala Asp Gly  
     65                    70                    75                    80  
 Arg Lys Thr Glu Thr Val Cys Thr Phe Thr Asp Gly Ala Leu Val Gln  
                     85                    90                    95  
 His Gln Lys Trp Glu Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
                     100                    105                    110  
 Asp Gly Lys Met Val Val Glu Cys Val Met Asn Asn Ala Ile Cys Thr  
             115                    120                    125  
 Arg Val Tyr Glu Lys Val Gln  
     130                    135

<210> 52  
 <211> 135  
 <212> PRT  
 <213> Mus musculus

<400> 52  
 Met Ala Ser Leu Lys Asp Leu Glu Gly Lys Trp Arg Leu Met Glu Ser  
     1                    5                    10                    15  
 His Gly Phe Glu Glu Tyr Met Lys Glu Leu Gly Val Gly Leu Ala Leu  
             20                    25                    30  
 Arg Lys Met Ala Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
     35                    40                    45  
 Gly Asn Asn Ile Thr Val Lys Thr Glu Ser Thr Val Lys Thr Thr Val  
     50                    55                    60  
 Phe Ser Cys Asn Leu Gly Glu Lys Phe Asp Glu Thr Thr Ala Asp Gly  
     65                    70                    75                    80  
 Arg Lys Thr Glu Thr Val Cys Thr Phe Gln Asp Gly Ala Leu Val Gln  
                     85                    90                    95  
 His Gln Gln Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
                     100                    105                    110  
 Asp Gly Lys Met Ile Val Glu Cys Val Met Asn Asn Ala Thr Cys Thr  
     115                    120                    125  
 Arg Val Tyr Glu Lys Val Gln  
     130                    135

<210> 53  
 <211> 228  
 <212> DNA  
 <213> Homo sapiens

<400> 53  
gctgtagaca tggggatcgg atgctggaga aacccccctgc tgctgctgat tgccctggtc 60  
ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120  
aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180  
gacacctact tatatcgagt ccagaggcta attcgaagtc agatgcag 228

<210> 54  
<211> 228  
<212> DNA  
<213> Homo sapiens

<400> 54  
gctgtagaca tggggatcgg atgctggaga aacccccctgc tgctgctgat tgccctggtc 60  
ctgtcagcca agctgggtca cttccaaagg tgggagggct tccagcagaa gctcatgagc 120  
aagaagaaca tgaattcaac actcaacttc ttcattcaat cctacaacaa tgccagcaac 180  
gacacctact tatatcgagt ccagaggcta attcgaagtc agatgcag 228

<210> 55  
<211> 98  
<212> PRT  
<213> Homo sapiens

<400> 55  
Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser Tyr  
1 5 10 15  
Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu Ile  
20 25 30  
Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr Val  
35 40 45  
Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser Ser  
50 55 60  
Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu Ser  
65 70 75 80  
Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn Asn  
85 90 95  
Ser Cys

<210> 56  
<211> 99  
<212> PRT  
<213> Rattus norvegicus

<400> 56  
Ser Glu Glu Gly Val Gln Arg Ala Leu Asp Phe Ala Val Ser Glu Tyr  
1 5 10 15

Asn Lys Gly Ser Asn Asp Ala Tyr His Ser Arg Ala Ile Gln Val Val  
                   20                                  25                                  30  
 Arg Ala Arg Lys Gln Leu Val Ala Gly Ile Asn Tyr Tyr Leu Asp Val  
                   35                                  40                                  45  
 Glu Met Gly Arg Thr Thr Cys Thr Lys Ser Gln Thr Asn Leu Thr Asn  
                   50                                  55                                  60  
 Cys Pro Phe His Asp Gln Pro His Leu Met Arg Lys Ala Leu Cys Ser  
                   65                                  70                                  75                                  80  
 Phe Gln Ile Tyr Ser Val Pro Trp Lys Gly Thr His Thr Leu Thr Lys  
                                   85                                  90                                  95  
 Ser Ser Cys

<210> 57  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

<400> 57  
 Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
                   1                                  5                                  10                                  15  
 Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
                                   20                                  25                                  30  
 Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
                   35                                  40                                  45  
 Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
                   50                                  55                                  60  
 Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
                   65                                  70                                  75                                  80  
 Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn  
                                   85                                  90                                  95  
 Asn Ser Cys

<210> 58  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 58  
 Leu Asn Asp Lys Ser Val Gln Cys Ala Leu Asp Phe Ala Ile Ser Glu  
                   1                                  5                                  10                                  15  
 Tyr Asn Lys Val Ile Asn Lys Asp Glu Tyr Tyr Ser Arg Pro Leu Gln

	20		25		30
Val Met Ala Ala Tyr Gln Gln Ile Val Gly Gly Val Asn Tyr Tyr Phe					
	35		40		45
Asn Val Lys Phe Gly Arg Thr Thr Cys Thr Lys Ser Gln Pro Asn Leu					
	50		55		60
Asp Asn Cys Pro Phe Asn Asp Gln Pro Lys Leu Lys Glu Glu Glu Phe					
	65		70		75
Cys Ser Phe Gln Ile Asn Glu Val Pro Trp Glu Asp Lys Ile Ser Ile					
		85	90		95
Leu Asn Tyr Lys Cys					
	100				

<210> 59  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 59  
 tctccacag gccaggac 18

<210> 60  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 60  
 cgcattggtt tgggattg 18

<210> 61  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 61  
 ggatccgcc agctgggtca cttccaaagg tgg 33

<210> 62  
 <211> 32  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 62  
 ctcgagtcctg aggtttctgc ccacatgctc gg 32

<210> 63  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 63  
 gtggagtata tagtcactgt g 21

<210> 64  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide primer

<400> 64  
 cacagtgact atatactcga g 21

<210> 65  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<400> 65  
 gccaaagctgg gtcacttcca aaggtgggag ggcttccagc agaagctcat gagcaagaag 60  
 aacatgaatt caacactcaa cttcttcatt caatcctaca acaatgccag caacgacacc 120  
 tacttatatc gaggccagag gctaattcga agtcagatgc agctgacgac gggagtgagg 180  
 tatatagtca ctgtgaagat tggccggacc aaatgcaaga ggaatgacac gagcaattct 240  
 tctgcccc tgcaaagcaa gaagctgaga aagagtttaa tttgcgagtc tttgatatac 300  
 accatgccct ggataaacta tttccagctc tggacaatt cctgtctgga ggccgagcat 360  
 gtgggcagaa acctcaga 378

<210> 66  
 <211> 126  
 <212> PRT



<213> Homo sapiens

<400> 66

Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln Gln Lys Leu  
1 5 10 15

Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
20 25 30

Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
35 40 45

Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
50 55 60

Val Lys Ile Gly Arg Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
65 70 75 80

Ser Cys Pro Leu Gln Ser Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
85 90 95

Ser Leu Ile Tyr Thr Met Pro Trp Ile Asn Tyr Phe Gln Leu Trp Asn  
100 105 110

Asn Ser Cys Leu Glu Ala Glu His Val Gly Arg Asn Leu Arg  
115 120 125

<210> 67

<211> 378

<212> DNA

<213> Homo sapiens

<400> 67

gccaaagctgg gtcacttcca aaggtgggag ggcttccagc agaagctcat gagcaagaag 60  
aacatgaatt caacactcaa cttcttcatt caatcctaca acaatgccag caacgacacc 120  
tacttatatc gagtccagag gctaattcga agtcagatgc agctgacgac gggagtggag 180  
tatatatgca ctgtgaagat tggctggacc aaatgcaaga ggaatgacac gagcaattct 240  
tcctgcccc tgcaaaccaa gaagctgaga aagagtttaa tttgcgagtc tttaatatat 300  
accatgccct ggtaaacta tttccagctc tggaacaatt cctgtctgga gcccagagcat 360  
gtgggcagaa acctcaga 378

<210> 68

<211> 126

<212> PRT

<213> Homo sapiens

<400> 68

Ala Lys Leu Gly His Phe Gln Arg Trp Glu Gly Phe Gln Gln Lys Leu  
1 5 10 15

Met Ser Lys Lys Asn Met Asn Ser Thr Leu Asn Phe Phe Ile Gln Ser  
20 25 30

Tyr Asn Asn Ala Ser Asn Asp Thr Tyr Leu Tyr Arg Val Gln Arg Leu  
35 40 45

Ile Arg Ser Gln Met Gln Leu Thr Thr Gly Val Glu Tyr Ile Val Thr  
50 55 60

Val Lys Ile Gly Trp Thr Lys Cys Lys Arg Asn Asp Thr Ser Asn Ser  
65 70 75 80

Ser Cys Pro Leu Gln Thr Lys Lys Leu Arg Lys Ser Leu Ile Cys Glu  
85 90 95

Ser Leu Ile Tyr Thr Met Pro Trp Leu Asn Tyr Phe Gln Leu Trp Asn  
100 105 110

Asn Ser Cys Leu Glu Pro Glu His Val Gly Arg Asn Leu Arg  
115 120 125

<210> 69  
<211> 1482  
<212> DNA  
<213> Homo sapiens

<400> 69  
gtgtgtgggt gtccaggtgc ctttccagcg gcttccccag tggagttcct ggcacatcaagg 60  
acatttcctg taaaagggtc cttgttgaag agggaaagcca gtcttaatat gatggaaaaca 120  
tctctgaact tctaaaagac caagggtggc gtttttagctc tattaatttt acttcgtctt 180  
ggccagaatt cacaatgaca acagtggcag tgaccacaga aattccccca agggataaga 240  
tggagataaa ttctgccttg tatgagtcta cgtccgctca cattattgaa gaaaccgagt 300  
atgtgaaaaa gattcgaact actctgcaaa agatcaggac ccagatgttt aaagatgaaa 360  
taagacatga cagtacaaat cacaaactag atgcaaagca ctgtggaaac cttcaacagg 420  
gctctgattc tgaaatggat ccttcttggt gcagtttggg tttgcttatg aaaaagataa 480  
aaggaaaaaga cctacagctc ttagaaatga acaaagagaa tgaagtattg aaaatcaagc 540  
tgcaagcctc cagagaagca ggagcagcag ctctgagaaa cgtggcccag agattatttg 600  
aaaactacca aacgcaatct gaagaagtga gaaagaagca ggaggacagt aaacaattac 660  
tccaggttaa caagcttgaa aaagaacaga aattgaaaca acatgttgaa aatctgaatc 720  
aagttgctga aaaacttgaa gaaaaacaca gtcaaattac agaattggag aaccttgatc 780  
agagaatgga aaaggaaaag agaacactac tagaaagaaa actgtctttg gaaaacaagc 840  
tactgcaact caaatccagt gctacatatg gaaaaagttg ccaggatctt cagagggaga 900  
tttccattct ccaggagcag atctctcatc tgcagtttgt gattcactcc caacatcaga 960  
acctgcgcag tgtcatccag gagatggaag gattaaaaaa taatttaaaa gaacaagaca 1020  
aaagaattga aaatctcaga gaaaagggtt acatacttga agcccagaat aaagaactaa 1080  
aaaccagggt agcactttca tctgaaactc ctaggacaaa ggtatctaag gctgtctcta 1140  
caagtgaatt gaagaccgaa ggtgtttccc cttatttaat gttgattagg ttacggaaat 1200  
gaactggctg gatgaagatc tgatttagaa agactgcgtg agtcttattt attctctgaa 1260  
acacagccca agtttcatgt taaaatggca aaatgccatt atttaaatgg aacttattac 1320  
ataccaatgg ctttgcaaga agatgacatt tcagaaaatc aaacaaatct atatttaatg 1380  
gatggactct tcaaaactta ccaaatagtt gaagaaacca ggtgccttct catgatggaa 1440  
gacagattct gcttttaatt aaaaaaaaaa aaatctgaaa aa 1482

<210> 70  
<211> 424  
<212> PRT  
<213> Homo sapiens

<400> 70  
Gly Gly Gly Gly Cys Asp Arg Tyr Glu Pro Leu Pro Pro Ser Leu Pro

1	5	10	15
Ala Ala Gly Glu Gln Asp Cys Cys Gly Glu Arg Val Val Ile Asn Ile	20	25	30
Ser Gly Leu Arg Phe Glu Thr Gln Leu Lys Thr Leu Cys Gln Phe Pro	35	40	45
Glu Thr Leu Leu Gly Asp Pro Lys Arg Arg Met Arg Tyr Phe Asp Pro	50	55	60
Leu Arg Asn Glu Tyr Phe Phe Asp Arg Asn Arg Pro Ser Phe Asp Ala	65	70	75
Ile Leu Tyr Tyr Tyr Gln Ser Gly Gly Arg Ile Arg Arg Pro Val Asn	85	90	95
Val Pro Ile Asp Ile Phe Ser Glu Glu Ile Arg Phe Tyr Gln Leu Gly	100	105	110
Glu Glu Ala Met Glu Lys Phe Arg Glu Asp Glu Gly Phe Leu Arg Glu	115	120	125
Glu Glu Arg Pro Leu Pro Arg Arg Asp Phe Gln Arg Gln Val Trp Leu	130	135	140
Leu Phe Glu Tyr Pro Glu Ser Ser Gly Pro Ala Arg Gly Ile Ala Ile	145	150	155
Val Ser Val Leu Val Ile Leu Ile Ser Ile Val Ile Phe Cys Leu Glu	165	170	175
Thr Leu Pro Glu Phe Arg Asp Glu Lys Asp Tyr Pro Ala Ser Thr Ser	180	185	190
Gln Asp Ser Phe Glu Ala Ala Gly Asn Ser Thr Ser Gly Ser Arg Ala	195	200	205
Gly Ala Ser Ser Phe Ser Asp Pro Phe Phe Val Val Glu Thr Leu Cys	210	215	220
Ile Ile Trp Phe Ser Phe Glu Leu Leu Val Arg Phe Phe Ala Cys Pro	225	230	235
Ser Lys Ala Thr Phe Ser Arg Asn Ile Met Asn Leu Ile Asp Ile Val	245	250	255
Ala Ile Ile Pro Tyr Phe Ile Thr Leu Gly Thr Glu Leu Ala Glu Arg	260	265	270
Gln Gly Asn Gly Gln Gln Ala Met Ser Leu Ala Ile Leu Arg Val Ile	275	280	285
Arg Leu Val Arg Val Phe Arg Ile Phe Lys Leu Ser Arg His Ser Lys	290	295	300
Gly Leu Gln Ile Leu Gly Gln Thr Leu Lys Ala Ser Met Arg Glu Leu			

305		310		315		320									
Gly	Leu	Leu	Ile	Phe	Phe	Leu	Phe	Ile	Gly	Val	Ile	Leu	Phe	Ser	Ser
				325					330					335	
Ala	Val	Tyr	Phe	Ala	Glu	Ala	Asp	Asp	Pro	Thr	Ser	Gly	Phe	Ser	Ser
			340				345						350		
Ile	Pro	Asp	Ala	Phe	Trp	Trp	Ala	Val	Val	Thr	Met	Thr	Thr	Val	Gly
		355					360					365			
Tyr	Gly	Asp	Met	His	Pro	Val	Thr	Ile	Gly	Gly	Lys	Ile	Val	Gly	Ser
	370					375					380				
Leu	Cys	Ala	Ile	Ala	Gly	Val	Leu	Thr	Ile	Ala	Leu	Pro	Val	Pro	Val
385					390					395				400	
Ile	Val	Ser	Asn	Phe	Asn	Tyr	Phe	Tyr	His	Arg	Glu	Thr	Glu	Gly	Glu
			405						410					415	
Glu	Gln	Ser	Gln	Tyr	Met	His	Val								
			420												

<210> 71  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 71
Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser
1 5 10 15
Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser
20 25 30
Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala
35 40 45
Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu
50 55 60
Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile
65 70 75 80
Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly
85 90 95
Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser
100 105 110
Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly
115 120 125
Ser His Ala Trp
130

<210> 72  
 <211> 132  
 <212> PRT  
 <213> Strongylocentrotus purpuratus

<400> 72  
 Met Glu Pro Val Pro Gly Ser Arg Arg Gln Thr Asp Lys Gly Cys Ser  
   1                  5                  10                  15  
 Gly Asp Thr Ala His Leu Pro Leu Ser Cys Leu Gly Ala Gln Glu Ser  
                   20                  25                  30  
 Arg Arg Pro Pro Pro Arg Ala Ser Thr Lys Thr Gly Ser Gln Pro Ala  
           35                  40                  45  
 Met Pro Ser Pro Leu Arg Pro Gln Gly Ser Ala Gly Val Leu Pro Glu  
       50                  55                  60  
 Pro Arg Val Pro Val Gln Lys Pro Gly Ile Asn Ala Ala Ser Pro Ile  
       65                  70                  75                  80  
 Gly Thr Val Arg Val Glu Arg Gly Arg Pro Thr Val Ser Pro Ala Gly  
                   85                  90                  95  
 Arg Gly Ser Pro Arg Gly Gly His Val Gly Gly Leu Thr Ala Pro Ser  
           100                  105                  110  
 Thr Pro Gly His Ser Asp His Gly Leu His Thr Gln Lys Gln Ser Gly  
       115                  120                  125  
 Ser His Ala Trp  
       130

<210> 73  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 73  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
   1                  5                  10                  15  
 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
           20                  25                  30  
 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
       35                  40                  45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
       50                  55                  60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
       65                  70                  75                  80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro

85	90	95
Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly		
100	105	110
Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn		
115	120	125
Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro		
130	135	140
Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu		
145	150	155
Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro		
165	170	175
Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile		
180	185	190
Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu		
195	200	205
Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn		
210	215	220
Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val		
225	230	235
Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr		
245	250	255
Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu		
260	265	270
Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp		
275	280	285
Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His		
290	295	300
Lys Thr Ile Arg Arg Glu Leu Asn		
305	310	

<210> 74  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 74  
 Met Thr Leu Arg Leu Leu Glu Asp Trp Cys Arg Gly Met Asp Met Asn  
 1 5 10 15  
 Pro Arg Lys Ala Leu Leu Ile Ala Gly Ile Ser Gln Ser Cys Ser Val  
 20 25 30

Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35 40 45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50 55 60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
 65 70 75 80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
 85 90 95  
 Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
 100 105 110  
 Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
 115 120 125  
 Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
 130 135 140  
 Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
 145 150 155 160  
 Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
 165 170 175  
 Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
 180 185 190  
 Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
 195 200 205  
 Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
 210 215 220  
 Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240  
 Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255  
 Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270  
 Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285  
 Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300  
 Lys Thr Ile Arg Arg Glu Leu Asn  
 305 310

<210> 75

<211> 425

<212> PRT

<213> Homo sapiens

<400> 75

Gly	Arg	Arg	Gly	Cys	Ala	Arg	His	Gly	Ala	Ala	Val	Pro	Ala	Ala	Pro
1				5				10						15	
Cys	Gly	Cys	Cys	Glu	Arg	Leu	Val	Leu	Asn	Val	Ala	Gly	Leu	Arg	Phe
			20					25					30		
Glu	Thr	Arg	Ala	Arg	Thr	Leu	Gly	Arg	Phe	Pro	Asp	Thr	Leu	Leu	Gly
		35					40					45			
Asp	Pro	Ala	Arg	Arg	Gly	Arg	Phe	Tyr	Asp	Asp	Ala	Arg	Arg	Glu	Tyr
	50					55					60				
Phe	Phe	Asp	Arg	His	Arg	Pro	Ser	Phe	Asp	Ala	Val	Leu	Tyr	Tyr	Tyr
65					70					75					80
Gln	Ser	Gly	Gly	Arg	Leu	Arg	Arg	Pro	Ala	His	Val	Pro	Leu	Asp	Val
				85					90					95	
Phe	Leu	Glu	Glu	Val	Ala	Phe	Tyr	Gly	Leu	Gly	Ala	Ala	Ala	Leu	Ala
			100					105					110		
Arg	Leu	Arg	Glu	Asp	Glu	Gly	Cys	Pro	Val	Pro	Pro	Glu	Arg	Pro	Leu
		115					120					125			
Pro	Arg	Arg	Ala	Phe	Ala	Arg	Gln	Leu	Trp	Leu	Leu	Phe	Glu	Phe	Pro
		130				135						140			
Glu	Ser	Ser	Gln	Ala	Ala	Arg	Val	Leu	Ala	Val	Val	Ser	Val	Leu	Val
145					150					155				160	
Ile	Leu	Val	Ser	Ile	Val	Val	Phe	Cys	Leu	Glu	Thr	Leu	Pro	Asp	Phe
				165					170					175	
Arg	Asp	Asp	Arg	Asp	Gly	Thr	Gly	Leu	Ala	Ala	Ala	Ala	Ala	Ala	Gly
			180					185						190	
Pro	Val	Phe	Pro	Ala	Pro	Leu	Asn	Gly	Ser	Ser	Gln	Met	Pro	Gly	Asn
		195					200					205			
Pro	Pro	Arg	Leu	Pro	Phe	Asn	Asp	Pro	Phe	Phe	Val	Val	Glu	Thr	Leu
		210				215						220			
Cys	Ile	Cys	Trp	Phe	Ser	Phe	Glu	Leu	Leu	Val	Arg	Leu	Leu	Val	Cys
225					230					235				240	
Pro	Ser	Lys	Ala	Ile	Phe	Phe	Lys	Asn	Val	Met	Asn	Leu	Ile	Asp	Phe
				245					250					255	
Val	Ala	Ile	Leu	Pro	Tyr	Phe	Val	Ala	Leu	Gly	Thr	Glu	Leu	Ala	Arg
			260					265					270		
Gln	Arg	Gly	Val	Gly	Gln	Gln	Ala	Met	Ser	Leu	Ala	Ile	Leu	Arg	Val
			275				280					285			



Ile	Arg	Leu	Val	Arg	Val	Phe	Arg	Ile	Phe	Lys	Leu	Ser	Arg	His	Ser	
290						295					300					
Lys	Gly	Leu	Gln	Ile	Leu	Gly	Gln	Thr	Leu	Arg	Ala	Ser	Met	Arg	Glu	
305					310					315					320	
Leu	Gly	Leu	Leu	Ile	Phe	Phe	Leu	Phe	Ile	Gly	Val	Val	Leu	Phe	Ser	
				325					330					335		
Ser	Ala	Val	Tyr	Phe	Ala	Glu	Val	Asp	Arg	Val	Asp	Ser	His	Phe	Thr	
			340					345					350			
Ser	Ile	Pro	Glu	Ser	Phe	Trp	Trp	Ala	Val	Val	Thr	Met	Thr	Thr	Val	
		355					360					365				
Gly	Tyr	Gly	Asp	Met	Ala	Pro	Val	Thr	Val	Gly	Gly	Lys	Ile	Val	Gly	
	370					375					380					
Ser	Leu	Cys	Ala	Ile	Ala	Gly	Val	Leu	Thr	Ile	Ser	Leu	Pro	Val	Pro	
385					390					395					400	
Val	Ile	Val	Ser	Asn	Phe	Ser	Tyr	Phe	Tyr	His	Arg	Glu	Thr	Glu	Gly	
				405					410					415		
Glu	Glu	Ala	Gly	Met	Phe	Ser	His	Val								
		420					425									